

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

PROPRIETECT L.P.,

Plaintiff,

v.

JOHNSON CONTROLS, INC.,

Defendant.

Case No. 12-12953
Honorable Julian Abele Cook, Jr.

ORDER

On July 5, 2012, the Plaintiff, Proprietect L.P. (“Proprietect”), initiated this lawsuit, in which it has accused the Defendant, Johnson Controls, Inc. (“JCI”), of infringing upon two of its patents; namely, (1) U.S. Patent No. 7,481,637 (“the ‘637 patent”) and (2) U.S. Patent No. 7,878,785 (“the ‘785 patent”) (collectively identified hereinafter as “the Patents-in-Suit”).

I.

The parties - now recognizing that they have reached a phase in this litigation wherein they collectively disagree on the meaning and significance of certain words and phrases that are arguably essential to a thorough understanding of the Patents-in-Suit - have submitted briefs to the Court pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996), seeking a judicial interpretation of several disputed terms used throughout the Patents-in-Suit. In light of the fact that this controversy centers around two patents from the same

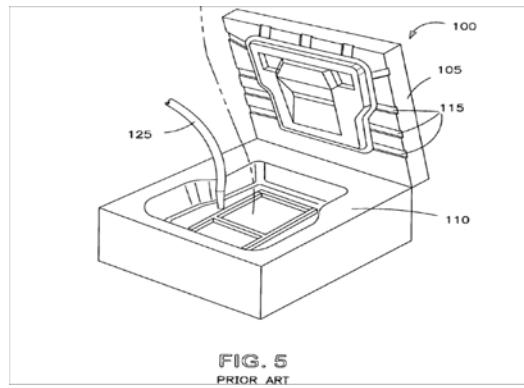
family, the Court will endeavor to provide universally applicable definitions.¹

I.

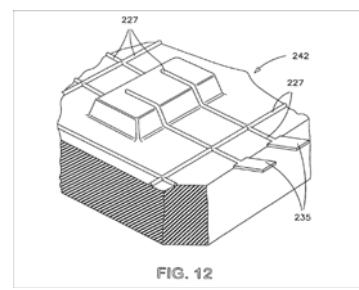
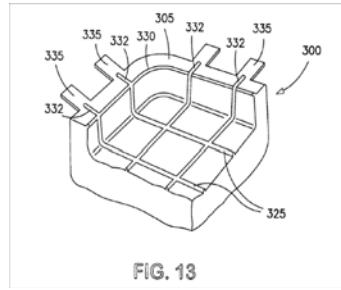
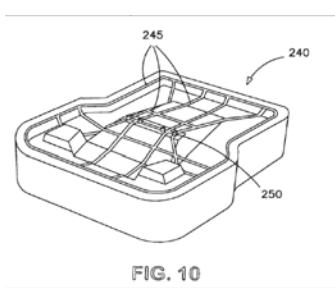
In broad terms, the Patents-in-Suit embody “a mold for producing foam articles.” ‘637 and ‘785 patents, abstract. The ‘637 and ‘785 patents are from the same family, share a common specification, and are both titled “Vented Mold and Method For Producing Molded Article.” On an abstract level, the molding process is fairly straightforward; the user injects a raw material into the cavity of the clamshell apparatus “wherein the raw material undergoes a physical change (e.g., it expands or foams) and the article produced thus acquires the shape of the cavity.” ‘637 patent, Col. 1, line 19. This technique is often employed for producing foamed articles made from polyurethane and latex. *Id.* at Col. 1, line 23.

Of particular relevance here, automotive seats are commonly manufactured from polyurethane cushions that are molded into shape by the mechanism embodied in the Patents-in-Suit. One of the many problems that plagued first and second generation clamshell molds was a failure to provide adequate venting. ‘637 patent, Col. 2. When the air present in the mold is unable to escape as the foamable composition expands, the end product will often exhibit symptoms of surface hardening and/or void formation due to trapped gas or air bubbles. *Id.* at Col. 2, line 1. Furthermore, if there are too many vents in a particular mold, the opposite problem occurs; namely, some of the liquid composition will move into the vented area, resulting in wasted material that must be removed and discarded. *Id.* at Col. 2, line 5. For purposes of illustration, the ‘637 patent includes a rendering of its predecessor, seen below:

¹The Court notes that both parties approach the claim construction process from a global perspective, providing reference to specific claims for illustrative purposes only. Thus, the parties seek a universal definition for each of the disputed terms.



The Patents-in-Suit claim to have improved upon the inadequacies of the earlier generation molds through the development of a new approach to system venting. In specific, the inventors claim to have “discovered that the use of one more grooves/slots in the mold cavity surface effectively acts as a siphon to draw gas away from the composition to be molded.” *Id.* at Col. 3, line 33. In the preferred embodiment of the invention, the improvement in design is claimed to reduce the number of vents required to achieve proper ventilation and, ultimately, the ability to produce articles that are substantially free of voids and underfill. *Id.* at Col. 9, line 61. From a design perspective, reducing the number of vents while improving the overall functionality of the mold is accomplished by instituting “one or more grooves (or slots) in the surface of the mold cavity [that] can be used as a conduit to funnel, draw, siphon, etc. gas to be vented to a conventional vent without the need to place a vent in each area where gas is expected to be vented.” *Id.* at Col. 9, line 38. The figures below depict some of the modifications instituted in the ‘637 patent:



Although the parties dispute a number of the terms contained in the Patents-in-Suit, Claim 1 of the ‘637 patent is generally representative of both patents and reads as follows: (six of the disputed terms appear in ***bold italics***)

1. A mold for producing molded articles, the mold comprising:
 a first mold and a second mold releasably engageable between an open position and a closed position, the closed position defining a mold cavity; and ***a surface*** of the mold cavity comprising ***a plurality of grooves*** connected to ***a plurality of vents***, at least two of said vents being in fluid communication with each other through ***said plurality of grooves***, each vent comprising a passageway for gas to escape from the mold cavity, ***each groove*** configured to have: (i) a depth of up to ***about*** 10 mm and a width, the depth being greater than or equal to the width, and (ii) a cross-sectional shape comprising an open portion having a first width of up to ***about*** 5 mm and an apex portion having a second width less than the first width.

Id. at Col. 15, line 49. (emphasis added). According to Proprietect, all of the disputed terms are simple, everyday words that should be given their plain and ordinary meaning. JCI, on the other hand, maintains that the terms should be narrowly construed in light of the surrounding claim language, specification, and prosecution history. As such, JCI urges the Court to supply specific constructions for each of the disputed terms so that the parties may tailor their litigation strategy accordingly.

II.

The parties have asked the Court to construe twelve disputed terms, all of which are found in the Patents-in-Suit; namely, the meaning of (1) “a surface of the mold cavity,” (2) “the surface of the mold cavity,” (3) “groove,” (4) “each groove,” (5) “a plurality,” (6) “a plurality of vents,” (7) “a plurality of grooves,” (8) “said plurality of grooves,” (9) “a plurality of grooves connected to a plurality of vents,” (10) “a plurality of interconnected grooves,” (11) “lid,” and (12) “about.” As detailed in Exhibit 1 to JCI’s opening brief, (ECF No. 21) the disputed terms are used in

connection with several claims within the Patents-in-Suit.² Both parties have submitted briefs which express their respective beliefs regarding the proper construction of the terms at issue.

In 1995, the Federal Circuit Court of Appeals declared that a trial court should undertake a two step process when attempting to determine if a patent infringement has occurred; namely (1) construe all of the disputed claims, and (2) then determine if the accused product infringes upon any of the claims as properly construed. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996).

Claim construction is a matter of law which is the responsibility of the trial court to address and resolve. *Cybor v. FAS Techs., Inc.*, 138 F. 3d 1448, 1456 (Fed. Cir. 1998). It is “the process of giving proper meaning to the claim language.” *Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed. Cir. 1997). As such, this process is designed to “define the scope of the protected invention.” *Id.* Claim construction is a legal issue, whereas a comparison to the accused product or the prior art are factual undertakings. *TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1369 (Fed. Cir. 2002).

When construing claims, a court should initially consider the language of the patent claim. *Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002). In the absence of an express intent to impart a novel meaning to a term within the claim, there is a “heavy presumption” that a term carries its ordinary and customary meaning to a person of ordinary skill

² Under Federal Circuit case law, “the same terms appearing in different claims in the same patent . . . should have the same meaning ‘unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.’” *Fin Control Sys. Pty. Ltd. v. OAM Inc.*, 265 F.3d 1311, 1318 (Fed. Cir. 2001). The parties do not contend that an exception to this general rule should apply here.

in the relevant art. *Id* at 1325. Thus, when “construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to ‘particularly point out and distinctly claim the subject matter which the patentee regards as his own invention.’” *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (quoting 35 U.S.C. § 112). Dictionaries are often useful resources to assist the court in determining the ordinary and customary meanings of claim terms, as well as the meanings that would have been ascribed to technical terms by those of skill in the relevant art. *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed. Cir. 2002).

The trial courts are also encouraged to examine the intrinsic record in every case in order to “determine whether the presumption of ordinary and customary meaning is rebutted.” *Texas Digital*, 308 F.3d at 1209. Although words in a claim are generally given their ordinary and customary meaning, “a patentee may choose to be his own lexicographer” and assign special definitions to the words in the claim, as long as those definitions are clearly stated in the patent specification or file history. *Hoecsh Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578 (Fed. Cir. 1996). Thus, intrinsic evidence can provide much needed “context and clarification about the meaning of claim terms.” *Teleflex*, 299 F.3d at 1325.

The source of intrinsic evidence that a court should initially examine is the patent itself, including the claims, the specification, and, if in evidence, the prosecution history. *Ductmate Industries, Inc. v. Famous Supply Corp.*, 55 F.Supp.2d 777, 782 (N.D. Ohio 1999) (citing *Cybor Corp. V. FAS Tech., Inc.*, 138 F.3d. 1448, 1454 (Fed. Cir. 1998)). However, “[a] construing court does not accord the specification, prosecution history, and other evidence the same weight as the claim itself, but consults these sources to give the necessary context to the claim language.” *Id.*

Finally, although trial courts may examine extrinsic evidence, including inventor and expert testimony, such an approach should be utilized only in rare cases. *Frank's Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd.*, 292 F.3d 1363, 1374 (Fed. Cir. 2002). The Federal Circuit has held that a trial court may consult extrinsic evidence only for the limited purpose of allowing it (1) to acquire an understanding of the claim terminology or (2) to resolve an ambiguity in a disputed claim term on the basis of the intrinsic evidence. *Markman*, 52 F.3d at 986. Significantly, extrinsic evidence “cannot be used to alter a claim construction dictated by a proper analysis of the intrinsic evidence.” *On-Line Tech. v. Bodenseewerk Perkin-Elmer GmbH*, 386 F.3d 1133, 1139 (Fed. Cir. 2004).

III.

A. Construction of “surface”

The challenged term, “surface” is used in reference to “*a* surface of the mold cavity”, and “*the* surface of the mold cavity”;³ however, neither patent specifically defines “surface.” Furthermore, the parties vigorously dispute precisely what the term means under the given context. See ‘637 patent, Cols. 15-16, lines 53, 10. Proprietect argues that “surface” is a word that is easily understood by a person of ordinary skill in the art, and thus it should be given its plain meaning. JCI, on the other hand, maintains that “*a* surface” and “*the* surface” take on narrow (and competing) meanings when read in conjunction with the patent specifications and claim structure, and must, therefore, be individually construed by the Court.

In order to understand JCI’s position, it is important to initially observe an illustration of

³ The term “*a* surface” appears under claims 1 and 41 in the Patents-at-Suit while “*the* surface” is found under claims 8, 9, and 10.

the context in which “surface” is used. Under claim 1 of the ‘637 patent, the term is used to help define the outer limits of the invention at issue - “a mold for producing molded articles”- by requiring that “*a surface* of the mold cavity [comprise] a plurality if grooves connected to a plurality of vents[.]” *Id.* at Col. 15, lines 53-54. Following claim 1 is a series of dependent claims, which, according to JCI, must provide some modification to the overall design concept. Bearing that in mind, claim 8 is defined as follows: “[t]he mold defined in claim 1, wherein *the surface* of the mold cavity comprises the plurality of grooves.” *Id.* at Col. 16, lines 10-11. According to JCI, “*a surface* of the mold cavity”, (‘637 patent, claim 1) refers to “one of the surfaces of the cast aluminum mold, either the lid or the bowl as applicable, but not including an epoxy gasket with tape vents, which is added to the mold and not part of the mold itself”, while “*the surface*”, (‘637 patent, claim 8) should be interpreted as meaning“the entire surface of the mold comprised of the surfaces of both the lid and the bowl, but not including an epoxy gasket with tape vents, which is added to the mold and not part of the mold itself.” (JCI’S Opening Brief, ECF No. 21 at 16).

JCI’s argument with respect to the first clause of the proffered definitions - “one of the surfaces” vs. “the entire surface” - is based on the notion that claim 8 is dependent upon claim 1, and must, therefore, offer some distinguishing element. Defining “*the surface*” and “*a surface*” the same would render claim 8 superfluous, which, according to JCI, runs afoul of an elementary patent drafting principle referred to as “claim differentiation.” As to the additional elements contained in JCI’s proposed definitions, namely: (1) cast aluminum,⁴ (2) lid/bowl, and (3) epoxy gasket with tape vents, JCI maintains that the intrinsic evidence supports the imposition of these specific

⁴ JCI acknowledges in its response brief that “the asserted claims do not limit the molds solely to cast aluminum material.” (JCI’s Response, ECF No. 27 at 6, fn 1). The Court thus strikes this portion of the proposed definitions.

limitations.

Proprietect challenges JCI's interpretation and argues that "*a surface*" and "*the surface*" of the mold cavity both mean the same thing - i.e. "a" "surface" "of" "the" "mold" "cavity." (Proprietect's Opening Brief, ECF No. 24 at 9, 11). In support of this position, Proprietect maintains that (1) each time the term "*the surface*" is used in the Patents-in-Suit it is done so in a dependent claim; in that it specifically refers back to the same "*a surface*" appearing in the related independent claim, and (2) the indefinite article "a" or "an" in patent parlance carries the meaning of "one or more" in open-ended claims containing the transitional phrase "comprising." Furthermore, Proprietect argues that JCI's inclusion of the "lid/bowl" limitation is also improper, as the claims within the Patents-in-Suit do not always specifically require a lid or bowl to form a mold cavity. Finally, as to the "epoxy gasket with tape vents" limitation, Proprietect submits that (1) the surface of the mold cavity is not defined in terms of structures that are not present, and, furthermore, that (2) JCI is attempting to import this limitation for the sole purpose of avoiding infringement.

Following its review of the parties' submissions, the Court finds that neither of the proposed definitions - such as Proprietect's overly broad construction which is premised in plain meaning or JCI's narrow interpretation that is riddled with significant limitations - adequately represents what appears to be the intended scope of the term "surface" in the Patents-in-Suit. The analysis by the Court relating to this issue is subdivided into three categories: (1) the intended meaning of "*a surface*" and "*the surface*" of the mold cavity; (2) the "bowl/lid" limitation; and (3) the "epoxy with tape vent" limitation.

Proprietect's proposal generically states that the term "*surface* of the mold cavity" should

be given its ordinary and accustomed meaning as understood by one of ordinary skill in the art. Yet, it provides the Court with no guidance for the qualifications that such a person would possess, and cites no authority for its view that such an ordinarily skilled person would define all uses of the term - regardless of the article preceding it - in the way that it proposes, namely “a” “surface” “of” “the” “mold” “cavity”. Moreover, even assuming, *arguendo*, that the Court is inclined to accept Proprietect’s “plain meaning” interpretation, the doctrine of claim differentiation “creates a presumption that each claim in patent has a different scope. The difference in meaning and scope between claims is presumed to be significant to the extent that the absence of such difference in meaning and scope would make a claim superfluous.” *Free Motion Fitness, Inc. v. Cybex Int'l, Inc.*, 423 F.3d 1343, 1351 (Fed. Cir. 2005).

Proprietect’s interpretation leads to the precise problem that is addressed by the claim differentiation doctrine. Indeed, under Proprietect’s proposal, independent claim 1 of the Patents-in-Suit would read as follows: “A mold for producing molded articles . . . **a surface** of the mold cavity comprising a plurality of grooves . . . ” (emphasis added). Whereas dependent claim 8 would read “[t]he mold cavity defined in claim 1, where **[a] surface** of the mold cavity comprises the plurality of grooves.” (emphasis added). Under this scenario, attaching the same meaning to “surface” renders claim 8 superfluous - an outcome that is counterintuitive, and, from the perspective of this Court, unsupported by the surrounding context.

JCI’s approach to this layer of the claim construction process is more consistent with the claim language and intrinsic record. *See Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“The starting point for any claim construction must be the claims themselves.”) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir.

1999). Starting first with “*a surface*”, as JCI correctly points out, “a” is an indefinite article, which, under the language of claim 1, does not specify which “*surface of the mold*” comprises a plurality of grooves . . .” Patents-in-Suit, claim 1. Accordingly, “a surface of the mold” must mean “one of the two surfaces comprising the mold cavity.” Proprietect contends that this argument is inconsistent with the holding by the Federal Circuit that “an indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more’ . . .”, *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008), however, this interpretation provides the patent holder with two options, either of which may be utilized to satisfy the design specifications articulated under claim 1.

In light of the construction by the Court of “*a surface*”, the surrounding context dictates that “*the surface*” must refer to “all surfaces comprising the mold cavity.” Indeed, “the” is a definite article used to identify all surfaces within the mold cavity. Patents-in-Suit, claim 8. As the specification to both patents makes clear, the “mold cavity” is comprised of “a lid and a bowl releasably engageable . . . the closed position defining a mold cavity.” ‘637 patent, Cols. 2-3, lines 67,1-2; ‘785 patent, Col. 3, lines 3-5. Thus, “*the surface*” of the “the” mold cavity is comprised of the surface of both the lid and the bowl in the closed position. As such, any reference to “the surface” must, by default, refer to both surfaces of the mechanism.

Finally, the construction of the two related phrases in this manner clearly passes muster under the doctrine of claim differentiation. Under independent claim 1, for example, the plurality of grooves must be contained exclusively within one of the mold surfaces, either the upper or lower surface of the mechanism. ‘637 patent, Col. 15, line 53. Dependent claim 8, on the other hand, allows for an increased flexibility in the design specification in that the plurality of grooves can be

distributed across the upper *and* lower surface of the mechanism. *Id.* at Col. 16, line 10. Neither party has proffered any language to the Court within the specification or prosecution history that would tend to refute this construction.

Turning now to the lid/bowl limitation, JCI contends that because the specification purports to synonymize upper and lower mold with “lid” and “bowl”, all instances of “surface” should be interpreted accordingly. JCI’s logic on this score is unavailing for a number of reasons. First, this argument is premised entirely on the following passage appearing in the specification of the ‘637 patent: “Mold 20 includes a lower mold 24 (also known in the art as a ‘bowl’) and an upper mold 28 (also known in the art as a ‘lid’) which are joined by a conventional hinge or other means (not shown).”’ ‘637 patent, Col. 6, lines 19-22. Even assuming this was an unequivocal dedication to define the parts comprising “the surface of the mold” throughout the entire patent, JCI fails to consider the context in which this passage appears; in the discussion of the prior art. This point is underscored by the fact that the patent drafter frequently refers to the upper and lower portions of the *invention* as a “first mold and a second mold”. ‘637 patent, Col. 15, line 50; Col. 17, line 24. Thus, it appears that the patentee deliberately chose to forego an exclusive naming scheme.

JCI is reminded that “[c]ourts can neither broaden nor narrow the claims to give the patentee something different than what he has set forth.” *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999). Indeed, “there is a fine line between construing the claims in light of the specification and improperly importing a limitation from the specification into the claims,” *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed.Cir.2011); *See also Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329-30 (Fed. Cir. 2009) (where a specification uses a term only in a specific context, it should not be construed to have a broader

scope). As such, the Court declines to adopt this narrowing limitation in the definition of “a/the surface” of the mold cavity.

Finally, as to the argument that “a/the surface” should be further limited to *exclude* “an epoxy gasket with tape vents”, the Court is not persuaded by JCI’s argument. As a preliminary matter, “[i]t is well settled that the role of a district court in construing claims is not to redefine claim recitations or to read limitations into the claims to obviate factual questions of infringement and validity[,] but rather to give meaning to the limitations actually contained in the claims” *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331 (Fed. Cir. 2011).⁵ This principle is particularly important where, as here, the alleged infringer is attempting to import a limitation to exclude specific features of the accused product. *See Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1330-31 (Fed. Cir. 2006) (“This court, of course repeats its rule that ‘claims may not be construed with reference to the accused device.’”). Indeed, JCI’s argument rests upon the very fact that “[e]very JCI mold has a strip of epoxy added to the cast aluminum bowl . . . [which] is added at the JCI plant by tooling engineers” (JCI’s Opening Brief, ECF No. 21 at 9 (emphasis added)). JCI’s attempt to distinguish its invention from the Patents-in-Suit is best left for the second layer of *Markman* analysis. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996) (“The second step is comparing the properly construed claims to the device accused of infringing. It is the first step, commonly known as claim construction or interpretation, that is at issue [here].”)

Accordingly, the term “a surface of the mold cavity” is construed to mean “one of the two

⁵ The Court notes that both parties agree that “[n]either the specification nor the file histories [of the Patents-in-Suit] mentions use of epoxy in the mold cavity.” (Proprietect’s Response, ECF No. 27 at 6); (JCI’s Opening Brief, ECF No. 21 at 12).

surfaces comprising the mold cavity”, whereas “the surface of the mold cavity” is interpreted to mean “all surfaces comprising the mold cavity.”

B. Construction of “groove”

The parties also dispute the meaning of the term “groove” which appears in 20 different claims within the Patents-in-Suit,⁶ primarily by itself or modified by “each.”⁷ Proprietect submits that both variations of the terms, “groove” and “each groove,” should be given their plain and ordinary meaning, whereas JCI maintains that the terms should be specifically and narrowly construed in light of the broader context in which they are used. Moreover, JCI contends that the doctrine of claim differentiation precludes the Court from adopting a plain meaning construction.

Focusing first on the unmodified form of “groove,” JCI maintains that this term must be defined as “a continuous trough that is [a] straight line or a curve, up to a point of intersection.” (JCI’s Opening Brief, ECF No. 21 at 11). By way of illustration, JCI compares the two claims in the ‘637 patent, noting that independent claim 1 includes “a surface of the mold cavity comprising a **plurality of grooves** connected to a plurality of vents”, ‘637 patent, Col. 15, lines 53-54, while independent claim 56 requires “a **plurality of interconnected grooves** arranged to be in fluid communication with the plurality of vents” *Id.* at Col. 18, lines 46-47.

According to JCI, the term “plurality of grooves” means that the grooves do not intersect

⁶ See JCI’s Opening Brief, ECF No. 21 at Exhibit 1.

⁷ Note that the parties also dispute the meaning of “plurality of grooves”, “said plurality of grooves”, a “plurality of grooves connected to a plurality of vents”, and “a plurality of interconnected grooves”. The Court will address those terms under the “plurality” section of this Order.

because otherwise the “interconnected” limitation in claim 56 would be superfluous. JCI, in its proposed construction of “groove”, appears to suggest that the Court should adopt a definition which incorporates the universe of all limitations imposed by the surrounding claim language. As such, JCI maintains that the Court can accomplish this seemingly lofty goal by simply requiring every “groove” to be defined as “[a] straight line or a curve, up to a point of intersection.” (JCI’s Opening Brief, ECF No. 21 at 12).

Conversely, Proprietect argues that the Patents-in-Suit use the term “groove” in a manner consistent with its plain and ordinary meaning, which, according to Proprietect, is “a formed depression in a surface.” (Proprietect’s Opening Brief, ECF No. 24 at 13). In support of this position, Proprietect points the Court to the specification, which only states that “grooves” are present “for siphoning gas or otherwise channeling gas.” ‘637 patent at Col. 3, lines 34-39. Moreover, Proprietect maintains that the prior art which is referenced in the Patents-in-Suit, namely GB 732,287 (Joint Appendix 0004), contradicts JCI’s construction. The GB 732,287 patent contains two different “groove” renderings, stating that “Fig. 1 is a view of the surface of a mould showing single grooves” while Fig. 2 is “a view of the surface of the mould showing crossed grooves.” *See* Joint Appendix 0177-78. According to Proprietect, the renderings in the prior art indicate that others in the field recognize that grooves can stand alone, cross, or intersect and thus should not be artificially constrained absent some limiting factor within the claim language itself.

JCI disagrees with this analysis, arguing that even if the plain meaning of the term could be harmonized with the claim language and specification, the doctrine of claim differentiation prohibits such a result. JCI maintains that claims 1 and 56 of the ‘637 patent take on the same meaning when “groove” is construed in the manner advanced by Proprietect. As such, JCI urges

the Court to accept its definition in order to provide a meaningful purpose to all of the claims.

Upon review of the parties' submissions, the Court finds JCI's construction of "groove" to be overly restrictive and unsupported by the plain language of the Patents-in-Suit. Starting with the claim language - using JCI's illustration as an example - the argument that independent claim 1 uses the term "plurality of grooves" and independent claim 56 uses the term "plurality of *interconnected* grooves" says absolutely nothing about how the Court should construe "groove" on its own. "Plurality of grooves" is a broad term which allows for a significant degree of latitude with regard to groove configuration, while "plurality of *interconnected* grooves" clearly requires a more precise pattern. Here, the patentee has simply exercised his right to modify the operative term—"grooves"-by qualifying the context in which it is used. *See e.g., Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379 (Fed. Cir. 2006) ("[T]he claim construction task requires this court to discern the meaning of that term in the context of this invention and field of art."). Indeed, as alluded to by Proprietect during the *Markman* hearing, the '637 patent contemplates a variety of groove configurations. *See* '637 patent, col. 13, lines 44-62 ("The groove may comprise an curvilinear cross-section. The groove may comprise a substantially U-shaped cross-section. The groove may comprise a substantially semi-circular cross-section. The groove may comprise a substantially V-shaped cross-section.") Absent a showing of ambiguity with regard to a specific claim, the Court sees no reason to tailor a cumbersome all-inclusive definition where the patentee's use of the term is otherwise clear.

JCI's argument with respect to the doctrine of claim differentiation is likewise unavailing. Indeed, "[i]n the most specific sense, 'claim differentiation' refers to the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim."'

Curtiss-Wright Flow Control Corp., 438 F.3d 1374 at 1380. Thus, “the claim differentiation tool works best in the relationship between independent and dependent claims.” *Id.* JCI, however, relies on two *independent* claims in support of its position that the doctrine of claim differentiation should apply. *See* claims 1 and 56 of the ‘637 patent. Moreover, even assuming, *arguendo*, that there is a relationship between claims 1 and 56, JCI has failed to articulate “how such [alleged] difference in meaning and scope would make [] [either] claim superfluous.” *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1335 (Fed. Cir. 2011).

Accordingly, although the Court agrees that the claim term “groove” does not require any judicial construction, it nonetheless disagrees with Proprietect’s unsubstantiated position that this term is commonly understood as “a formed depression in a surface.” (Proprietect’s Opening Brief ECF No. 24 at 13). As expressed by the Federal Circuit, “the ordinary and accustomed meaning of groove is a relatively long and narrow structure.” *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 955 (Fed. Cir. 2000) (“The claim term’s ordinary and accustomed meaning initially serves as a default meaning . . .”). The written description of the Patents-in-Suit supports the interpretation of groove as a long and narrow structure. Indeed, the written description teaches that “one or more grooves (or slots) in the surface of the mold cavity can be used as a conduit to funnel, draw, siphon, etc. gas to be vented . . .” ‘637 patent, Col. 9, lines 38-39. Moreover, as previously discussed, the prior art cited on the face of the Patents-in-Suit likewise supports this interpretation. *See* Joint Appendix at 0177-78. As such, the term “groove” is construed to mean “a long and narrow structure”.

C. Construction of “each groove”

Moving next to “each groove,” the parties again disagree as to the general meaning of this

term without focusing upon any particular claim. Claim 1 of the ‘637 patent is illustrative of the use of this term throughout the Patents-in-Suit and bears repeating here:

[A] surface of the mold cavity comprising *a plurality of grooves* connected to a plurality of vents, at least two of said vents being in fluid communication with each other through said plurality of grooves, each vent comprising a passageway for gas to escape from the mold cavity, *each groove* configured to have

The gist of the parties’ dispute surrounds the relationship, if any, between “a plurality of grooves” and “each groove.” According to Proprietect, “a plurality of grooves” forms the antecedent basis of “each groove” and, as such, the term “each” refers only to “each” of the previously recited “plurality of grooves.” (Proprietect’s Response, ECF No. 29 at 18). JCI, on other hand, maintains that “each groove” refers to “every individual groove on the applicable mold surface” because “each” appears only after “a plurality of grooves.” (JCI’s Response, ECF No. 27 at 16-17). As such, JCI appears to suggest that “each groove” should be construed as though it was a separate clause. Interestingly, both parties contend that *Apple Inc. v. Samsung Electronics Co., Ltd.*, 695 F.3d 1370 (Fed. Cir. 2012) supports their respective positions.

In *Apple*, the Federal Circuit held that the determination by the district court that “each” modified “plurality of heuristic modules” was erroneous because “the word ‘each’ appear[ed] not before ‘plurality of modules,’ but inside the ‘wherein’ clause and before the phrase ‘heuristic modules.’” *Id.* at 1378. Thus, the court construed the term “each heuristic module” to mean “all heuristic modules.” *Id.* at 1379. The *Apple* court drew support for its construction from *ResQNet.com, Inc. v. Lansa, Inc.*, 346 F.3d 1374 (Fed Cir. 2003) which involved the construction of two different claims, one of which recited “each field” and the other “each of a plurality of fields.” *Id.* at 1377. The *ResQNet* court likewise found that “each field” referred to “all fields.” *Id.* Significantly, both *Apple* and *ResQNet* involved the interpretation of “each” in the context of either

(1) two completely different claims, or (2) one claim separated by a “wherein” clause.

While the holdings in *Apple* and *ResQNet* advanced the interpretation that JCI is seeking to obtain, the surrounding context supporting those decisions is simply not analogous to the representative claim language at issue here. First, and most critically, in every instance cited in Exhibit 1 to JCI’s Opening Brief, the term “each groove” appears *after* “a plurality of grooves”, and never in a separate clause or on its own. This is precisely why the court in *Apple* and *ResQNet* interpreted the reference to “each” as broadly as it did. Here, “each groove” appears in the same clause - and only after - the recitation of “said plurality of grooves.” Second, the prosecution history of the Patents-in-Suit supports this interpretation. Indeed, during prosecution of the ’637 patent, the patentee amended the recitation of “at least one groove” in claim 1 to “a plurality of grooves.” *See* Joint Appendix 0574. Consistent with this amendment, the patentee modified the later recitation of “the at least one groove” to “each groove.” *Id.* The “each groove” language was added to claim 1 in conjunction with the addition of “a plurality of grooves” to account for the change of the singular antecedent to a plural antecedent. Accordingly, in light of the claim language and prosecution history, the Court finds that “each groove” does not require construction, and, as such, it should be given its plain and ordinary meaning. Under these circumstances, “each groove” only refers to “each” of the previously recited “plurality of grooves.”

D. The “Plurality” Terms

The parties also disagree over the meaning of six different claim terms which contain the word “plurality” as follows: (1) “a plurality”, (2) “a plurality of vents”, (3) “a plurality of grooves”, (4) “said plurality of grooves”, (5) “a plurality of interconnected grooves”, and (6) “a plurality of grooves connected to a plurality of vents.” The Court will address each of these terms in the order

thus described.

1. Construction of “a plurality”

According to Proprietect, “plurality” is a simple, plain English word which means “more than one.” JCI, while substantively in agreement with Proprietect, contends that, for the benefit of the parties and the hypothetical jury in this matter, the term should be defined as a “number greater than one.” JCI’s position, from the perspective of the Court, constitutes the classic form over substance argument. Indeed, outside of “party convenience” and “juror clarity”- neither of which factor into the claim construction analysis by the Court - JCI’s basic argument is that because “a plurality always refers to either a number of grooves or a number of vents greater than one” the Court should incorporate the “number” requirement into the formal definition of this term. (JCI’s Response, ECF No 27 at 12).

The Court disagrees. For starters, JCI cannot plausibly maintain that “the patentee demonstrated a ‘clear intent’ to deviate from the ordinary and accustomed meaning of [the] claim term” *Johnson Worldwide Assoc., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999). The Federal Circuit has repeatedly held that the plain and ordinary meaning of “plurality” is “two or more,” “more than one,” or “at least two.” See, e.g. *Cybersettle, Inc. v. Nat'l Arbitration Forum, Inc.*, 243 F.App’x 603, 606 (Fed. Cir. 2007). As such, the Court finds that “plurality” should be given its plain and ordinary meaning of “more than one.”

2. Construction of “a plurality of vents”

The parties’ disagreement with respect to “a plurality of vents” revolves exclusively around the definition of “plurality”, and, as such, the previous analysis by the Court applies with equal force here. See section III, part D-1. Indeed, JCI maintains that the term should be interpreted as “more

than one vent”, while Proprietect proposes “two or more vents.” Neither party takes issue with the meaning of “vent.” Accordingly, the Court finds that “a plurality of vents” should be interpreted to mean “more than one vent.”

3. Construction of (1) “a plurality of grooves”, (2) “said plurality of grooves”, and (3) “a plurality of interconnected grooves”

The parties’ construction arguments with respect to “a plurality of grooves”, its antecedent “said plurality of grooves”, and “a plurality of interconnected grooves” are, for all substantive purposes, interrelated. In fact, much of the analysis by the Court of “groove” and “each groove” addresses the underlying theories that have been advanced by the parties with respect to these terms. *See* section III, parts B and C. As such, the Court will consider these terms together, providing reference to its previous discussion of “groove” and “each groove” where necessary to avoid duplicative analysis.

In a nutshell, JCI’s position is that, inasmuch as the Patents-in-Suit distinguish between “a plurality of grooves” and “a plurality of interconnected grooves”, these terms must, necessarily, be specifically construed in a manner which avoids the doctrine of claim differentiation. As the Court discusses below, this contention by JCI erroneously assumes that, in light of the context in which the terms are used, they cannot independently exist in harmony. Operating under this assumption, JCI maintains that “a plurality of grooves” should be defined as “more than one groove, but which grooves do not intersect or interconnect” while “a plurality of interconnected grooves” must mean “multiple grooves that connect with one another.” (JCI’s Opening Brief, ECF No. 21 at 21). Perhaps predictably, Proprietect maintains that (1) neither of the terms require construction, and (2) because “a plurality” means “two or more” “a plurality of grooves” must mean “two or more grooves.” (Proprietect’s Opening Brief, ECF No. 24 at 15). Likewise, Proprietect contends that “a

plurality of interconnected grooves” means simply “two or more interconnected grooves.” (*Id.* at 17).

JCI’s central, and seemingly only, argument with respect to why the Court should import a limitation into the meaning of “a plurality of grooves” is because the failure to do so would render claim 56 of the ‘637 patent meaningless. The Court has experienced difficulty in analyzing JCI’s position beyond its blanket assertion that “a plurality of grooves cannot include interconnected grooves.” (JCI’s Response, ECF No. 27 at 14). Notably, JCI has failed to substantiate its argument with any reasonable level of particularity. Nevertheless, an independent analysis of JCI’s argument by the Court reveals that it, too, is likewise lacking in substance.

As mentioned, “the claim differentiation tool works best in the relationship between independent and dependent claims.” *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). Similar to the application of the claim differentiation doctrine to “groove” - likewise premised under *independent* claims 1 and 56 of the ‘637 patent - claim 56 does not become superfluous by virtue of adopting the plain meaning definition of “a plurality of grooves.” Indeed, notwithstanding the obvious fact that the patentee modified the term under claim 56 by adding the “interconnected” limitation, the body of claim 56 is substantively different from claim 1. For example, claim 1 protects “a plurality of grooves connected to a plurality of vents, at least two of said vents being in communication with each other . . .” ‘637 patent, Col. 15, line 54. Claim 56, however, requires “fluid communication” between a plurality of interconnected grooves and a plurality of vents, while also mandating that at least two of said vents be connected to each other. *Id.* at Col.18, line 47. This difference, however slight, is enough to satisfy the doctrine of claim differentiation. *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed. Cir.

1987) (“claims may be multiplied . . . to define the metes and bounds of the invention in a variety of different ways.”) (quoting *Bourns, Inc. v. United States*, 537 F.2d 486, 492 (Ct. Cl. 1976 (“Thus two claims which read differently can cover the same subject matter.”))

Furthermore, the Court concludes that JCI’s proposed definition of “a plurality of grooves” is inconsistent with the parties’ stipulation regarding the construction of a “network.” (Stipulation, ECF No. 20 at 1). Indeed, the parties have agreed that a “network” should be defined as “a substantial grid-like or checkerboard arrangement of grooves. The grooves need not necessarily be arranged to define precise squares.” *Id.* It seems reasonable to suggest that “a substantial grid-like or checkerboard arrangement” necessarily requires grooves that intersect or interconnect. Under dependent claim 11 of the ‘637 patent, however, “*the plurality of grooves is arranged to define a network of grooves.*” Col.16, lines 18-19 (emphasis added). If, as JCI proposes, “a plurality of grooves” excludes grooves that intersect, then the plurality of grooves can never define a network of grooves as required by claim 11. Accordingly, the Court finds that “a plurality of grooves” should be defined as “more than one groove” while “a plurality of interconnected grooves” refers to “two or more interconnected grooves.” Finally, given that “a plurality of grooves” forms the antecedent basis for “said plurality of grooves”, the Court finds that both terms should be interpreted in the same manner.

E. Construction of “a plurality of grooves connected to a plurality of vents”

Moving to the last plurality issue, the parties dispute the meaning of “a plurality of grooves connected to a plurality of vents.” This claim is simply the combination of two previously defined terms; namely, “a plurality of grooves” and “a plurality of vents” with the additional word “connected” between them. While both parties agree that the term should, at a minimum, mean

“there is more than one groove and more than one vent” Proprietect’s proposed definition ends at this point while JCI maintains that the term should be given an additional limitation that would require that “at least one groove connects to at least one vent, but the grooves do not intersect or interconnect.” (JCI’s Response Brief, ECF No. 27 at 10). The Court, having previously assigned a meaning to “a plurality of grooves” and “a plurality of vents,” finds that a further analysis is unnecessary. Indeed, neither party has contended that the word “connected”- the only additional modifier in the term at issue - has a technical meaning in the art of vented molds. “Rather, it is a general descriptive term frequently used in patent drafting to reflect a functional relationship between claimed components.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1118 (Fed. Cir. 2004) (interpreting claim term “operatively connected.”).

Generally speaking, and as used in the Patents-in-Suit, “connected” means the claimed components - here a plurality of grooves and vents - must be linked in way to perform a designated function. *See Id.* “In the absence of modifiers, general descriptive terms are typically construed as having their full meaning.” *Id.* Thus, the Court finds that “a plurality of grooves connected to a plurality of vents” means that “more than one groove and more than one vent are connected to one another.”

F. Construction of “About”

Consistent with the parties approach thus far, they disagree as to the meaning of “about” by generally relying upon select claim language by way of illustration in support of their respective positions. Claim 41 of the ‘637 patent provides the Court with some context in this regard: “. . . each groove is configured to have a depth in the range of from ***about*** 3mm to ***about*** 10 mm and a first width in the range of from ***about*** 0.5mm to ***about*** 5mm.” Operating under this framework - and

without reference to anything in the specification or prosecution history - JCI maintains that “[t]he term ‘about’ must mean within less than 0.5mm of the [given] measurement because otherwise the term, as used in claim 41, would allow a first width equal to or less than 0 mm, which makes no sense.”⁸ (JCI’s Opening Brief, ECF No. 21 at 20). Proprietect, on the other hand, contends that “[n]o strict numerical limitation is supported by the intrinsic evidence[]” and, as such, the term retains its inherently flexible meaning “convey[ing] some tolerance around a stated numerical value.” (Proprietect’s Response, ECF No. 29 at 15).

The Court finds JCI’s proposed definition of “about” to be problematic for a number of reasons. First, JCI’s attempt to provide a universal definition to a term that (1) is found in at least 10 different claims within the Patents-in-Suit, and (2) corresponds to a measurement that is inherently context specific. Indeed, consider, for example, claim 52 of the ‘637 patent, “wherein the minimum dimension is in the range of from ***about*** 0.05mm (0.002 inches) to ***about*** 0.50mm (0.020 inches).” Applying JCI’s proposed numerical limitation of “within less than 0.5mm” to claim 52 would lead to a groove with dimensions that are negative or zero. This outcome, as JCI acknowledges, “makes no sense.” (JCI’s Opening Brief, ECF No. 21 at 20). Moreover, if the patentee intended the first number in the given range - in JCI’s example 0.5mm - to be an absolute floor, it makes little sense to insert the word “about” in the first place.

Second and more fundamental to JCI’s approach to claim construction in general, however, is its failure to point to anything within the specification or prosecution history that rebuts the plain meaning of the term “about.” This is particularly true, where, as here, the term at issue is nothing

⁸ The Court notes that JCI has amended its proposed definition of “about” on at least three occasions. *See* ECF Nos: 13, 23, and 26.

more than a general descriptor that has been previously construed by the Federal Circuit as meaning “approximately.” *See Merck & Co., Inc. v. Tea Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“Because the patentee did not clearly redefine ‘about’ in the specification . . . We thus hold that the term ‘about’ should be given its ordinary and accepted meaning of ‘approximately.’”). In fact, *Merck* is particularly instructive here as the claims at issue likewise called for a measurement to fall within “about” a range of acceptable deviation. *See, Id.* at 1371 (where claim required dosage of “about 8.75 mg to about 140 mg . . .”). While the defendant sought a limiting construction similar to that sought by JCI here (i.e., requiring that “about” be tied to a specific numerical value) the court ultimately reversed the construction by the district court after holding that “the term ‘about’ should be given its ordinary and accepted meaning of “approximately.”” *Id.* “Thus, one of skill in the art, the vantage point from which the proper interpretation of a claim is ultimately determined, would have no reason to believe that the term “about” meant other than what it says; on the contrary, there would be every reason to believe that the term should be given its ordinary meaning.” *Conopco, Inc. v. May Dep’t Stores Co.*, 46 F.3d 1556, 1561 (Fed. Cir. 1994). As such, the Court finds that “about” means simply “approximately” in the context of the Patents-in-Suit.

G. Construction of “lid”

The final term offered for construction by the Court is “lid.” Lid appears under several claims within the Patents-in-Suit and is referred to in the specification of the ‘637 patent, to wit: “[m]old includes a lower mold (also known in the art as a “bowl”) and an upper mold (also known in the art as a “*lid*”) . . .” (emphasis added). According to Proprietect, “. . . a ‘lid’ is simply a lid. A ‘lid’ can include nothing, or [it] can include something, so long as it is a lid.” (Proprietect Response, ECF No. 29 at 16). JCI proposes a far narrower definition, maintaining that “[t]he Court should construe lid

to mean the upper piece of a mold, not including inserts on a three-piece mold.” (JCI Response, ECF No. 27 at 18).

In light of the summary treatment given to the construction of this particular term by the parties, the Court is not persuaded that either of the proffered definitions accurately represents the meaning of this term. On the one hand, Proprietect proposes a definition, which, while it contends is “little more than the application of the widely accepted meaning of commonly understood words”, (Proprietect Opening Brief, ECF No. 24 at 20) is far more expansive than the plain meaning prescribed by the federal circuit. *See World Kitchen (GHC), LLC v. Zyliss Haushaltwaren AG*, 151 F. App'x 970, 973 (Fed. Cir. 2005) (affirming district court's holding regarding ordinary meaning of “lid”). Conversely, JCI’s interpretation presents the opposite issue; namely, it appears to rely exclusively on a comparison between the allegedly infringing product and the Patents-in-Suit to form the basis of its limitations. *See* (JCI’s Response, ECF No. 27 at 21). While the Court recognizes that knowledge of the infringing product provides meaningful context at the claim construction stage, it is sensitive that “a trial court should certainly not prejudge the ultimate infringement analysis by construing claims with an aim to include or exclude an accused product or process . . .” *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1326-27 (Fed. Cir. 2006).

In *World Kitchen (GHC)*, the court held that the ordinary meaning of “lid” is “something that covers the opening of a hollow container”, but does not include “items that are secondarily attached to the lid that do not serve the function of covering the opening of the hollow container.” *World Kitchen (GHC)*, 151 F. App'x at 973. Finding nothing in the specification or prosecution history that tends to rebut the *World Kitchen (GHC)* definition of “lid”, the Court finds that it should likewise apply here. While the Court declines to “read limitations into the claims to obviate factual questions

of infringement and validity”, *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331 (Fed. Cir. 2011), it nonetheless incorporates the general limitation adopted by *World Kitchen* regarding items that are secondarily attached to the lid.

IV.

In summary, the Court interprets the Patents-in-Suit, in relevant part, as follows:

- (1) The term “a surface of the mold cavity” means “one of the two surfaces comprising the mold cavity.”
- (2) The term “the surface of the mold cavity” means “all surfaces comprising the mold cavity.”
- (3) The term “groove” means “a long and narrow structure.”
- (4) The term “each groove” means “each of the previously recited plurality of grooves.”
- (5) The term “a plurality” means “more than one.”
- (6) The term “a plurality of vents” means “more than one vent.”
- (7) The term “a plurality of grooves” means “more than one groove.”
- (8) The term “said plurality of grooves” means “the previously recited plurality of grooves.”
- (9) The term “a plurality of interconnected grooves” means “two or more interconnected grooves.”
- (10) The term “a plurality of grooves connected to a plurality of vents” means “more than one groove and more than vent connected to one another.”
- (11) The term “about” means “approximately.”
- (12) The term “lid” means “something that covers the opening of a hollow container, but does not include items that are secondarily attached to the lid and do not serve the function of covering the opening of the hollow container.”

IT IS SO ORDERED.

Date: December 23, 2013

s/Julian Abele Cook, Jr.

JULIAN ABELE COOK, JR.
U.S. District Judge

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing Order was served upon counsel of record via the Court's ECF System to their respective email addresses or First Class U.S. mail to the non-ECF participants on December 23, 2013.

s/ Kay Doaks
Case Manager